Microcomputer Newsletter

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Discount Program News

Return of the Macintosh Bundle

Last spring Apple bundled the 128K and 512K Macintosh with an external disk drive and the Imagewriter printer and offered the package for a significantly lower-than-usual price. These packages were only available for a limited time. Once again Apple is offering a package deal on the 512K Mac (for a limited time). You can buy a 512K Macintosh with MacWrite, MacPaint, Imagewriter printer, external disk drive, and a Mac carrying case for $2260. This "Back to College Bundle" is only available August 1, 1985 through October 31, 1985. Call the Micro HelpLine (376-4276) for details.

Zenith floppy disk Z-158s now available

Zenith has now started shipping floppy disk versions of the Z-158 (an IBM PC compatible). The Z-158 is a newer version of the familiar Z-150. There are two differences between the Z-150 and Z-158. First, the Z-158 comes with 256K memory installed while the Z-150 comes with 320K memory. Second, the Z-158's CPU (Central Processing Unit) is capable of operating at both 4.77 MHz and 8 MHz. The Z-150 CPU operates only at 4.77 MHz (the same speed as the IBM PC CPU). In general, the faster the CPU operates, the more quickly programs will execute on a given computer. The bookstore is no longer able to get floppy disk versions of the Z-150 from the distributor (although the hard disk version of the Z-150 is still available). Instead of the floppy disk versions of the Z-150, the bookstore will now carry the Z-158. When the hard disk version of the Z-158 becomes available the bookstore will carry that machine as well.

Memory Access Speed Benchmark Revisited

Last month we listed the results of a benchmark we ran to test the speeds of several IBM PC compatibles. The program repeatedly fills an array to test CPU speed when accessing memory. This month we ran the same benchmark on the Z-148 (running at 8 MHz). The Z-158 speed should be comparablable to the Z-148. Remember, this benchmark tests *only one aspect* of system performance.

machine	time (seconds)	% of IBM-PC time
Zenith Z-200	14	23%
IBM-AT	19	31%
AT&T 6300	23	38%
Zenith Z-148	37	62%
Zenith Z-150	60	100%
IBM PC	60	100%

Jazz for the Apple Macintosh

Jazz, by Lotus Development Corporation, is an integrated software package for the Macintosh that contains five applications: Spreadsheet, Graphics, Word Processing, Communications, and Data Base. Different types of data can be combined and easily transferred between these applications. For example, you can move selected segments of your spreadsheet, database, or graphics files to the word processor to prepare a report. Jazz automatically updates the transferred information to reflect any changes in the master file. Jazz takes full advantage of Macintosh's special characteristics, such as icons, pull-down menus, and dialog boxes.

System Requirements

To use Jazz, you need a Macintosh with 512K of RAM and an external disk drive. To make use of the communications application, you also need a modem. There are four disks in the package: the program disk, backup disk, system startup disk, and the Jazz primer disk. Jazz takes 380K of disk space. Because of the size of Jazz, you cannot have the system folder or any other files on the program disk. The system folder and some utilities are on the startup disk. The Jazz manual recommends putting a copy of the system folder on each one of your data storage disks. You can then start the machine with your data disk in the internal drive (where new files can be saved) and the program disk in the external drive. Due to the size of the program, even on a 512K Macintosh the entire Jazz program and the system files cannot all fit into the random access memory of the machine. Because Jazz needs to read segments of the program from disk into the memory as it runs, the program disk should remain in the external drive while Jazz is running.

The Jazz tutorial

This is an excellent starting point for the first-time Jazz user. It covers the main features of each of the five functions of the Jazz program. The manual assumes that the user is familiar with the operation of the Macintosh. For each application there are several lessons providing step-by-step instructions for performing simple tasks. The tutorial manual is accompanied by a data disk that holds the eleven lessons.

Starting Jazz

To start any of the applications, first you double click on the Jazz icon (to launch Jazz). Once Jazz is running, you can open an existing file or create a new file. In either case, you are presented with six different icons: Worksheet, Data Base, Graphics, Form, Communications, and Word Processing. If you are opening an existing file, you first indicate the application type by clicking its icon. Once you select the type of application, Jazz will list only files created by that application. This is useful if you have many files of different types on the same disk and don't want to search through a long list of file names.

The Jazz Worksheet

After loading the spreadsheet program, Jazz presents you with a window displaying the usual spreadsheet column and row format. The maximum size of a Jazz worksheet is 8192 rows by 256 columns. The actual (usable) size of the spreadsheet depends on the data entered and the size of the memory. The manual recommends entering the data as close as possible to the top left corner of the spreadsheet because this minimizes the memory consumed by the worksheet.

To enter data in a cell, select the cell and enter the data from the keyboard. You can then hit RETURN, TAB, or ENTER keys, or click another cell for the next entry. Data can be copied to any part of the worksheet by selecting a range and then using the CUT and PASTE commands.
You can enter numbers, text, or formulas and select from a variety of formats to view them on the screen.

After you have entered information into a cell you can protect, hide, or both protect and hide the cell. When entries are hidden, Jazz doesn't display their contents on the screen, but the data can still be referenced in a formula. This type of protection is useful when you want to protect specific cell entries from other users. But, since Jazz has no password option, anyone can disable the protection and change the data in the spreadsheet. With Jazz you can give names to ranges of cells. Jazz gives you a list of all the range names and also indicates the cell address of the range name. This is a feature that other spreadsheet programs do not provide. The Jazz spreadsheet also allows you to display the text in different fonts, styles and sizes. Except for the improvements mentioned above, the spreadsheet module of the Jazz program is not very different from other such programs on the market. (*Jazz* continued on page 3)

(*Jazz* continued from page 2)
The Jazz spreadsheet has 100 functions to perform specific tasks. The functions include mathematical functions (SQRT, ROUND, MOD, INT), logical functions (IF, ISSTRING, ISNUMBER), financial functions (PV, NV, NPV, PMT), calendar functions (DATE, DAY, MONTH, YEAR, NOW), statistical functions (SUM, AVG, MAX, MIN), and a host of other special functions.

Graphics

With the Jazz graphics package you can transform numbers on a worksheet or from a database into a graph. To create a graph, select the range to be plotted from your spreadsheet or database, then open a graph window. Select the type of graph (pie, bar, line) in the graph window and plot it. There are several line styles, patterns, and symbols that you can select for your graph. Legends can be added easily. You can add titles to the graph, use text from the original file as data point labels, select fonts and styles, explode a wedge in a pie chart, and so on. You can transfer the entire Jazz graph to MacPaint or MacDraw to add more elaborate options to the graph.

Word Processing

The word processing section of Jazz is useful for writing letters, memos, reports, or other short documents, but the document size is somewhat limited. We were only able to create documents that were 12 pages long. The Jazz word processor is similar to MacWrite. The main difference in Jazz is the position of the various icons. Setting margins, tabs, inserting and selecting text, cutting and pasting, and searching for specific words all operate in a fashion similar to MacWrite. The advantage of the Jazz word processor is that it allows several word processing windows to be opened at the same time. Transferring information between these documents is just a cut and paste operation.

Hot View is an option available with the Jazz Word Processor. You can incorporate pictures of a graph, or parts of your database or worksheet into a word processing document. These pictures are called *Hot Views*. Any changes made to the original files are *automatically reflected in the Hot View* copy in the word processing document. Information included in this fashion cannot be edited in the document until you break its link to the original file. The *freeze* command breaks this link. A *Hot View* of the current date, time, or page number can also be included in documents.

The *Hot View* option is also used to create form letters and mailing labels. You create a template document that contains the boilerplate text. A form letter is created by merging information such as name, address, and salutation into the boilerplate text. To do this you include field values from a database (such as names and addresses) or cell entries from a worksheet (such as monthly sales or commissions) as merge fields. You can combine merge fields from several databases and worksheets in the same document. The number of records to be included must be selected from the database program before printing the form letter. Printing mailing labels is similar to printing form letters. Jazz can print labels in three sizes but only in a single column. Jazz is set up to print labels on the Apple Imagewriter printer. The Apple LaserWriter prints only one label per page. This happens because the *page set up* menu for the LaserWriter doesn't have an option for mailing labels or turning the page break option off.

The Jazz Database

The database application is used to store, retrieve, and organize information. With the Jazz database you can add, delete, and edit records or fields without having to redesign the database. You can easily cut and paste data from one record or set of records to another. The data can be sorted on up to three fields. You can create and name several queries, but only one can be active at a time. Jazz displays records and fields in a row and column format. Each row contains all the information for one record, and each column for one field. Every field is of variable length (up to a maximum of 254 characters). You can have a total of 100 fields in a record. The total number of records for each database depends on the amount of memory available.

To enter data, you must select the ADD RECORD command for each entry. This procedure is slow and frustrating. To avoid this problem, a number of blank records can be added at once, or you have the option of creating a database form. Database forms can be created only after you have set up the database structure. Jazz automatically links a form to the active database and places a copy of each database field in the form. The appearance of a form can be changed to fit your needs. You can add titles, instructions, or explanatory text anywhere on the form.

The database report function lets you see all or part of a database in printed form. You can add totals

(*Jazz* continued on page 4)

(*Jazz* continued from page 3)
for numeric columns, set up titles for each column, and add headers and footers to the report. Database reports can be previewed on the screen before printing.

Communications

This application is set up to allow communication between a Macintosh and another computer, either directly, or using a modem and telephone lines. The communications section of Jazz can emulate a VT-100 or VT-52 terminal for accessing a mainframe computer, bulletin board, or other time-sharing service. It can also be used to send and receive files between two Macs (both running Jazz) or between a Macintosh and another computer (assuming the other computer has appropriate communications software).

After a communications type document has been opened, you must choose the communications settings. Settings includes the type of terminal, communication speed, and the type of modem. You then can start any communication operation. We used Jazz to connect the Macintosh to the University Computer Center Cyber systems and sent a text file. This took just a few minutes. We also sent this review from a Macintosh in one home to another Macintosh, also running Jazz, in another home. The document was created with MacWrite. Jazz accepted the document and sent it to the other Macintosh. The document retained the paragraph formats and even the bold and underline special effects. The file at the remote end was saved to disk with the MacWrite icon. The default communications settings for this application are such, that except for some minor changes (like selecting the appropriate modem), we didn't need to change any settings for either operation.

The Manuals

The Jazz handbook has five chapters, each covering one application. Within a chapter each operation is described step by step. We found a few cases where following the manual's instructions didn't result in what the manual claimed would happen. Each chapter ends with a quick reference section. The manual could use a few more examples. Because there is no on-line help, you need to use the handbook to find the answer to every question.

The Jazz primer manual introduces the material in eleven lessons. Each lesson is an organized set of instructions accompanied by pictures of the Macintosh screen for each step. The Jazz quick reference manual is just that. It provides a list of commands that are available but does not explain how the commands are used.

Conclusion

Jazz is a useful package if you need five programs in one. If you just want to do word processing or if you are entering a large database you should probably consider some other option. Starting the Jazz program is very slow. The size of the program and the disk organization limits the size of files you can create. If a system folder is not on your data disk, each operation will require several disk swaps. A hard disk is a real advantage for Jazz users. We sucessfully ran many of the options on a Macintosh with a HyperDrive hard disk installed. Moving from and IBM-PC to the Mac is relatively easy. If you have Lotus 1-2-3 or Symphony spreadsheets from an IBM, it is possible to move them into Jazz by using the Jazz utility *Convert.*

A big disadvantage for those who have used Lotus 1-2-3 or Symphony is the absence of macros to store frequently used sequences of commands.The Jazz worksheet does not allow splitting windows to view widely separated sections of the worksheet simultaneously. The graphics option of the Jazz program is limited in comparison with a stand-alone graphics package such as Microsoft Chart. The character fonts and sizes that you can select are included in one menu option. This creates a problem if you install many different fonts. The size options are on the bottom of the menu and are forced off the bottom of the screen by the list of fonts. This makes it impossible to select the size options if you have very many different fonts.

The best feature of the Jazz program is that you can open several windows simultaneously. Information can be transferred between applications by cutting and pasting or using the *Hot View* option. Every application in Jazz has a window menu where a list of file names already open is available. Just select the name and Jazz moves that window to the top.

Those of you running MacWorks on your Macintosh XL should know that Jazz was developed to run on the XL using MacWorks version 2.0. Since the 2.0 version of MacWorks has been recalled, you will experience problems with Jazz on the Macintosh XL. This problem should be corrected with the next release of MacWorks XL (due in August).

Review: Volkswriter Scientific

Overview

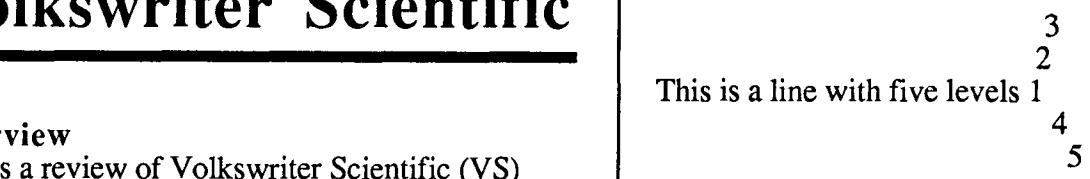
This is a review of Volkswriter Scientific (VS) Version 1.0. VS is not a general purpose or beginner's word processing package. It is a technical word processor that enables scientific/technical authors to add special characters to a text file created by another word processor. The text file must be an ASCII file. VS runs on the IBM PC, XT, AT, and compatibles (including the Zenith Z-150 and AT&T 6300). VS requires 256K RAM, DOS 2.0 or higher, a color/graphics display adapter, two disk drives or a hard disk, and a graphics printer connected to the parallel printer port. The Volkswriter Scientific documentation says VS supports the following printers for both high and draft quality output: HP ThinkJet, Epson FX, NEC 8023A, ProWriter, and IBM Graphics Printer. VS also prints in high quality on the Toshiba 1340/1350/1351 and in draft quality on the Epson MX. You cannot use other printers.

To produce special characters in VS you pair the backslash (\) or reverse quote (`) key with other alphanumeric keys. Typing a function key alone or in combination with the CTRL, SHIFT, and ALT keys gives VS a command or changes the menu that is displayed. VS's menus are displayed at the bottom on the screen for reference. However, Volkswriter Scientific is a command-driven rather than a menu-driven program. That is, you don't call up a menu and make a choice from it. Instead you just press the keystrokes required to initiate an action. VS menus are more like on-screen templates. VS comes with a tutorial diskette and a manual. However, about half the manual is the script you see on the tutorial diskette.

Using VS

Before you enter text you must choose either a medium (15 point) or a large (22 point) Roman font size. The size of the characters on VS's screen and the number of characters it takes to fill a line change accordingly to reflect the font size you've chosen. You can toggle between these two sizes with the SHIFT and F3 keys. However, only the medium font has italics and special characters. So, to use italics and special characters you *must* choose the medium font size.

With VS you can create and display lines with five levels:



In the previous sentence most of the characters, including "1", are on the same level, the base line. The 2 is equivalent to VS's first level superscript, and 3 to the second level superscript. The 4 is equivalent to VS's first level subscript, and 5 to the second level subscript.

When we used VS to create a five level equation, we did not plan our line spacing carefully enough and got garbage on our screen. One line overwrote another. To separate these two overlapping lines, we used the command to insert a line (ALT and the F3 key). You cannot insert blank lines with just a carriage return. After you've built an equation, you can change the horizontal spacing of the characters. You can add microspaces between characters to separate the symbols in the equation. Whenever you add horizontal microspaces, the text also shifts on the screen.

Because both the IBM-PC running Volkswriter Scientific and the Macintosh running MacWrite can create, edit, and print documents with special characters a comparison is in order. Like VS, MacWrite is a what-you-see-is-what-you-get word processor. That is, what you see on the screen is what you'll get from your printer. We compared some of VS's characters with those available to MacWrite in the LaserWriter's fonts. Both include these symbols:

α, β, γ, Γ, δ, ε, ζ, η, θ, ι, κ, λ, μ, ν, Υ, ξ, Ξ, ο, π, Π, ρ, σ, Σ, τ, υ, φ, χ, ψ, Ψ, ω, Ω, Δ, Θ, Λ, Σ, Φ.

VS also has liter and Lagrangian symbols (which aren't available in the LaserWriter's fonts). VS has over 100 other special characters in its Math, Scientific/Engineering, General/Footnote, and Building Block Characters menus. Some of these symbols are available to MacWrite on the LaserWriter. Many more special symbols are available in fonts designed for the Mac's dot matrix printer.

When you invoke special characters in both VS

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(*Volkswriter Scientific* continued from page 5)
and MacWrite, they appear on the screen in the position, shape, and size that they will appear when printed. But VS doesn't support IBM's new (and more expensive) enhanced graphics display adapter and monitor. Consequently, its characters look very fuzzy compared to similar characters on the Macintosh screen. We found it hard to look at any IBM PC compatible's graphics screen other than AT&T's. Overall it's easier to use the Macintosh to create, view, and print non-English characters.

Altering Text

VS is a page oriented system. It reads and writes data on the disk whenever you work on another page. VS does not display an entire document as if it were on a continuous roll of paper (you cannot scroll quickly from one end of the document to the other). Instead, VS presents text to you page by page. Because there is space reserved at the bottom of the screen for menus, you can only view about a third of a page at once. If you add text to page 1, the text that was on the bottom on page 1 does not automatically flow to page 2. You must issue the repaginate command to move any overflow text from page 1 to page 2. People who want to see how surrounding statements are affected when they delete text cannot view those statements together if they span more than one page. Instead they must look at each page separately.

You cannot mark a block of text to alter it or move it . For example, to use VS to underline *cannot* in the previous sentence, you must retype . You would move the cursor to *cannot* and use the DEL (delete) key to erase it character-by-character. Then you would press the F6 key to turn underline on, type *cannot*, and press F6 again to turn underline off.

To move a block of text you must delete it line-by-line and restore it line-by-line. The delete line commands are clustered on the F4 key. To move part of a line, position the cursor at the beginning of the text you want to move. Press the ALT and the F4 key. The text between the cursor and the right margin of that line will disappear from the screen. (You cannot delete/move text from the cursor to the left margin.) To restore that text the cursor must be at the left margin. All text is restored at that left margin cursor.

To move a sentence which begins in the middle of one line and ends in the middle of another, you can delete the beginning of the sentence with the ALT and F4 keys as shown above. Then use the CTRLand F4 key to delete the second line which contains the rest of the sentence. Press the INS (insert) key three times to issue the restore command. Then press the INS key once for each line you want to restore. Finally, use the DEL key to delete the words you did not want to move.

Usually when you add, delete, and move text you are left with lines of uneven length. You must use the F8 key to reformat each paragraph in order to rejustify the uneven lines. Unlike WordStar, VS does not have a repeat command. Although VS allows you to create macros (a way to repeat a series of keystrokes with one keystroke), we could not construct a macro to repeat the reformat instruction. We had to move the cursor to each paragraph that had uneven lines... press the F8 key... and wait for VS to reform the paragraph. Then move to the next paragraph and repeat the cycle (while chanting our mantra to avoid thinking about how repetitive this task is). VS offers such limited help in altering text, we do not consider it an acceptable general word processor.

Printing

We have two of the printers VS supports. We had no trouble printing a file on our Epson FX-80 (which has a parallel interface). VS's high quality print mode gave us disappointing results. VS did not produce the nearly fully formed characters that you get from some dot matrix printers such as Epson's LQ-1500. By comparison, VS's FX-80 characters looked like fuzzy dots strung or squashed together. The tutorial section of VS's manual was produced entirely by VS and printed on a Toshiba P1351. The Toshiba printout was reduced to about 75% of the original size. This is a bit misleading since any dot matrix printer's output, including our FX-80's, would also look much better if it were photocopied and reduced 75%. The photocopy-reduction process tends to smooth the characters, reduce the fuzzy look, and result in blacker looking text. If you use VS you will probably want to use the photocopy-reduction trick.

We did have trouble printing with our HP ThinkJet because it has a serial (not a parallel) interface. We used PC-DOS's *mode* command to redirect the printer output to the serial port so we could print a VS file on the HP ThinkJet. We could not get the printer to respond. It appears VS *requires* that the printer be connected to the parallel port.

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Bug Reports

Potential IBM-AT Hard Disk Problems
IBM has notified us that there is *"...a faulty electronic component on fewer than ten percent of IBM AT fixed disk/diskette drive adapter cards... The faulty component may cause difficulties with storing or retrieving information from the fixed disk drive..."* Approximately 80 IBM ATs sold through the University Microcomputer Discount Program *may* have this problem. IBM has provided us with a diskette that contains a diagnostic program to determine if a particular machine is affected.

If your machine's serial number is in the ranges 5019001 - 5141250, 0054001 - 0146900, or if you have replaced your disk controller card, please visit or call the Micro HelpLine (376-4276) and make arrangements to get a copy of the diagnostic diskette. When you call us or stop in, please tell us your machine's serial number so we can keep track of the owners who have run the diagnostic. Note: only the first seven digits of the serial number printed on your machine are significant (the remaining four digits are a model number). If the serial number on your machine is 00540115170, the significant digits are 0054011.

The diagnostic diskette runs a 60 minute test to determine if your disk controller card functions. If your disk controller card fails the diagnostic, you can telephone IBM and they will replace your card on-site. We urge all affected IBM-AT owners to run this diagnostic as soon as possible.

Macintosh external disk drive placement
UCC Engineering Services tells us that if you place the Mac external disk drive next to the *left* side of the Mac the drive may appear to malfunction. The problem seems to result from proximity to the Mac's power supply. You can resolve the problem by moving the external drive to the *right* side of the Mac, moving the drive farther away from the Mac, or placing some form of metal shield between the drive and the Mac.

PC-DOS 3.0 BACKUP utility problems
The BACKUP utility that comes with DOS 3.0 for the IBM AT contains a serious bug. BACKUP is a program used to backup files from hard disk to floppy disk. A companion program (RESTORE) is used to move files from floppy disk back onto the hard disk. Alas, a bug in BACKUP sometimes confuses the RESTORE program. When this happens, RESTORE is unable to re-load files onto the hard disk from floppy disk. IBM has come to the rescue with a newer version of BACKUP that works properly. The corrected version of BACKUP is available at the Micro HelpLine (room 125 Shepherd Labs, 9:30-noon and 1:30-4:00). If your version of BACKUP is dated prior to 11-14-84, bring a diskette to the HelpLine and we will give you the updated software. If you have used the bad BACKUP program and must retrieve the files, there is a *chance* you can recover them. The last resort procedure to recover files created by the bad version of BACKUP is also available in the lab.

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ASCII-Text File Transfer

VS lets you import any straight ASCII file. If you import a file created by Volkswriter Deluxe (or the Volkswriter Executive and International versions), VS keeps the file's super and subscripts, boldface, and some other attributes. Whenever you import a file, you're asked to enter format settings (left and right margin, medium or large font). Unfortunately, for political or perhaps technical reasons, VS imposes an embargo on exporting its files. You cannot convert a Volkswriter Scientific file to an ASCII file.

Major Drawback

Although you can change margin and space settings as often as you want within a document, you cannot change them for any text that has already been typed. We hoped to get around this problem with VS's extract feature. VS says extract enables you to remove one or more pages from a file. We cut a page from an old file, which we'll call AA. Then we retrieved this page into a new file, which we'll call BB. We did not specify any left and right margins in file BB, yet we could not choose new margins. We were stuck with the left and right margin settings in file AA. VS warns you to "choose your left and right margin settings carefully before typing, since they cannot be changed for lines of text that are already entered."

Conclusion

Volkswriter Scientific's tutorial and manual are not designed for the word processing beginner or for someone who is not used to typing technical text. Do not buy VS if you need a general purpose word processor. However, VS's 100+ special symbols may be what you need to enhance an ASCII file which you created with another word processor which has less support for special symbols.

If you already have an IBM PC, Volkswriter Scientific supports the characters you need, and if you find the limited printer support and print quality acceptable, VS may be a package worth considering. The bookstore does not stock VS, but they will special order it for departments. The bookstore's discounted price is $255.

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